

**Notice of Allowability**

Application No.

09/917,748

Examiner

Brian Q. Le

Applicant(s)

OHARA ET AL.

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2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/21/2006.
2. ☒ The allowed claim(s) is/are 1-8, 13-18, 20, 22, and 24 (renumbered as 1-17).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____  |

JINGGE WU  
PRIMARY EXAMINER

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/21/2006 has been entered.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with J. Randall Beckers (Reg. No. 30,358) on 09/20/2006.

The application has been amended as follows:

Regarding line 1 of claim 20 "A computer data signal embodied on a computer" is now changed to "A computer program embodied on a computer".

**REASONS FOR ALLOWANCE**

3. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 18, 20, 22 and 24, the prior art of record does not show the limitations of a rule line extraction apparatus/method/computer readable medium comprising "a

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first binarization device generating a first binary image by binarizing a multiple-valued image; a second binarization device generating a second binary image by binarizing the multiple-valued image in a method different from a method of said first binarization device; an extraction device extracting a ruled line candidate area using the first binary image; a determination device determining whether the extracted ruled line candidate area corresponds to a ruled line using the second binary image” in combination with other limitations of the claim.

Regarding claim 13, the prior art of record does not show the limitations of an image processing apparatus comprising “a second binarization device performing local binarization again on pixels which are determined as white pixels in a vicinal area of the target pixel only when the target pixel is determined as a white pixel by the local binarization performed by said first binarization device” in combination with other limitations of the claim.

For claim 14, the prior art of record does not show the limitations of an image processing apparatus comprising “a second binarization device performing local binarization again by changing a form of a vicinal area of a target pixel when the target pixel is regarded as a white pixel in the local binarization by said first binarization device” in combination with other limitations of the claim.

For claim 15, the prior art of record does not show the limitations of an image processing apparatus comprising “a determination device determining whether local binarization is to be performed again by comparing average gray levels between black pixels and white pixels in a vicinal area of a target pixel when the target pixel is regarded as a white pixel in the local binarization by said first binarization device; and a second binarization device performing local

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binarization on a pixel regarded as a white pixel in the vicinal area when it is determined that the local binarization is to be performed again” in combination with other limitations of the claim.

For claim 16, the prior art of record does not show the limitations of an image processing apparatus comprising “a determination device determining whether a target pixel is a background based on complexity of a pattern in a vicinal area of a target pixel during a local binarization of a multiple valued image including the target pixel; a binarization device performing again a local binarization of the target pixel only based on a determination result of said determination device” in combination with other limitations of the claim.

For claim 17, the prior art of record does not show the limitations of an image processing apparatus comprising “a determination device setting in a vicinal area of a target pixel at least one of a vertically-long area and a horizontal-long area containing the target pixel when the target pixel is regarded as a white pixel in the local binarization, and determining the target pixel to be a black pixel when a ratio of black pixels in the set area is larger than a predetermined value” in combination with other limitations of the claim.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### CONTACT INFORMATION

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BL  
September 20, 2006

  
JINGGE WU  
PRIMARY EXAMINER